Arizona CTE

Advanced Construction Technologies (2007)

Adopted 2007

Lay Out Building Lines	1.1	Demonstrate the use and care of precision measuring instruments.
	1.2	Establish building lines.
	1.3	Use a builder's level or transit and differential leveling procedures to determine site and building elevations.
	1.4	Record site layout data and information in field notes using accepted practices.
Perform Concrete/Masonry Work	2.1	Prepare and pour a footing.
	2.2	Construct a foundation wall or pier.
	2.3	Lay brick/block to specification.
	2.4	Cut brick and block accurately.
	2.5	Demonstrate the process of depositing, spreading, consolidating, and striking off concrete in a form.
	2.6	Construct concrete formwork.
	2.7	Estimate the material needed for concrete/masonry work.
Lay Out and Install Floor Systems	3.1	Install sill plate(s).
	3.2	Set posts.
	3.3	Construct or place girders/beams.
	3.4	Match selected fasteners used in floor framing to their correct uses.
	3.5	Estimate the amount of material needed to frame a floor assembly.
	3.6	Lay out and construct floor assembly.
		Install joists for a cantilever floor.

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	3.8	Install a subfloor using butt-joint plywood/OSB panels.
Demonstrate Wall and Ceiling Framing	4.1	Lay out wall lines including plates, corner posts, door and window openings, partition Ts, bracing and plan for installation of fire stops.
	4.2	Assemble wood stud walls.
	4.3	Assemble metal stud walls.
	4.4	Lay out, assemble, erect, and brace exterior walls for a frame building.
	4.5	Cut and install ceiling joists on a wood frame building.
	4.6	Estimate the materials required to frame walls and ceilings.
Frame and Finish a Roof	5.1	Construct conventional roof and/or set truss systems.
	5.2	Install roof sheathing and coverings.
	5.3	Frame a roof opening.
	5.4	Demonstrate the techniques for installing a variety of types of roofing materials.
	5.5	Estimate the materials used in framing and sheathing a roof.
Identify Thermal and Moisture Protection	6.1	Install insulation material.
	6.2	Install vapor barrier.
	6.3	Identify types and use of thermal insulation.
Apply Exterior Finishes	7.1	Identify and/or install frieze boards or soffit.
	7.2	Install exterior moldings and trim.
	7.3	Install various types of siding.
	7.4	Apply correct installation to eliminate water intrusion.
	7.5	Install exterior stucco finish.
Install Doors and Windows	8.1	Install door systems.
	8.2	Install door hardware.
	8.3	Install window systems.

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Install Interior Trim and Stairs	**9.1**	**Install baseboards and casings.**
	9.2	**Lay out and cut stringers.**
	9.3	**Determine the number and sizes of risers and treads required for a stairway.**
	9.4	**Build a small stair unit.**
	9.5	**Lay out a skirt board.**
Assemble Piping, Waste and Vent Distribution Systems	**10.1**	**Assemble a soil, waste and vent system.**
	10.2	**Assemble a water distribution system.**
	10.3	**Install plumbing fixtures or equipment.**
	10.4	**Demonstrate the ability to properly measure, cut, and join plastic and copper piping**
	10.5	**Identify the major components of a drainage system; describe their functions and how they malfunction.**
Install Electrical Component/System(s)	**11.1**	**Identify electrical service entrance requirements.**
	11.2	**Rough in switch boxes and outlet boxes.**
	11.3	**Rough in feeder and circuit.**
	11.4	**Install low voltage systems.**
	11.5	**Trim out electrical devices and appliances.**
	11.6	**Install lighting fixture(s) and ceiling fans.**
Install Interior Wall and Ceiling Finish	**12.1**	**Identify type and use of drywall.**
	12.2	**Demonstrate the proper techniques for cutting drywall.**
	12.3	**Fasten drywall to ceiling and walls.**
	12.4	**Apply mud, use tape appropriately and install corner bead.**
	12.5	**Demonstrate technique for paint application.**